

USAWC STRATEGY RESEARCH PROJECT

**DOD'S TRANSFORMATION EFFORTS –  
ONE STEP FORWARD, TWO STEPS BACK?**

by

Lieutenant Colonel Keith W. Robinson  
United States Army

Colonel Scott Voelker  
Project Adviser

This SRP is submitted in partial fulfillment of the requirements of the Master of Strategic Studies Degree. The U.S. Army War College is accredited by the Commission on Higher Education of the Middle States Association of Colleges and Schools, 3624 Market Street, Philadelphia, PA 19104, (215) 662-5606. The Commission on Higher Education is an institutional accrediting agency recognized by the U.S. Secretary of Education and the Council for Higher Education Accreditation.

The views expressed in this student academic research paper are those of the author and do not reflect the official policy or position of the Department of the Army, Department of Defense, or the U.S. Government.

U.S. Army War College  
CARLISLE BARRACKS, PENNSYLVANIA 17013

Report Documentation Page			Form Approved OMB No. 0704-0188		
Public reporting burden for the collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to a penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.					
1. REPORT DATE <b>18 MAR 2005</b>		2. REPORT TYPE		3. DATES COVERED -	
4. TITLE AND SUBTITLE <b>DOD's Transformation Efforts One Step Forward, Two Steps Back?</b>				5a. CONTRACT NUMBER	
				5b. GRANT NUMBER	
				5c. PROGRAM ELEMENT NUMBER	
6. AUTHOR(S) <b>Keith Robinson</b>				5d. PROJECT NUMBER	
				5e. TASK NUMBER	
				5f. WORK UNIT NUMBER	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) <b>U.S. Army War College, Carlisle Barracks, Carlisle, PA, 17013-5050</b>				8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)				10. SPONSOR/MONITOR'S ACRONYM(S)	
				11. SPONSOR/MONITOR'S REPORT NUMBER(S)	
12. DISTRIBUTION/AVAILABILITY STATEMENT <b>Approved for public release; distribution unlimited</b>					
13. SUPPLEMENTARY NOTES					
14. ABSTRACT <b>See attached.</b>					
15. SUBJECT TERMS					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT	18. NUMBER OF PAGES <b>40</b>	19a. NAME OF RESPONSIBLE PERSON
a. REPORT <b>unclassified</b>	b. ABSTRACT <b>unclassified</b>	c. THIS PAGE <b>unclassified</b>			



## ABSTRACT

AUTHOR: Lieutenant Colonel Keith W. Robinson

TITLE: DoD's TRANSFORMATION EFFORTS – ONE STEP FORWARD, TWO STEPS BACK?

FORMAT: Strategy Research Project

DATE: 18 March 2005 PAGES: 38 CLASSIFICATION: Unclassified

The Pentagon is on the verge of missing out on the greatest force planning opportunity of our lifetime. Unopposed by a peer competitor, the United States has entered a period in which the chances of fighting a major war over the next twenty years are low. Instead of taking advantage of this low-risk opportunity to restructure itself for the future, and despite a department-wide transformation effort that continues to gain momentum, the Department of Defense (DoD) continues to spend scarce resources on weapon systems that it does not need while failing to adequately invest in technology enablers necessary for it to successfully transform. The purpose of this paper is to suggest that DoD's current force planning assumptions are flawed and to recommend an alternative approach. Specifically, strategic planning under conditions of uncertainty is explored as well as the negative impact that the National Military Strategy – if not grounded in geo-political and fiscal reality – can have on force planning decisions. Also included is an assessment of DoD's current force planning efforts and an affordability assessment of the current and future force structure. Finally, suggestions for an alternative approach to force planning are included, which better compliments the Pentagon's current transformation efforts.



## TABLE OF CONTENTS

ABSTRACT.....	iii
LIST OF ILLUSTRATIONS .....	vii
LIST OF TABLES .....	ix
DOD'S TRANSFORMATION EFFORTS – ONE STEP FORWARD, TWO STEPS BACK? .....	1
STRATEGY AND FORCE PLANNING UNDER UNCERTAINTY .....	2
THE TWO MAJOR REGIONAL CONFLICT DEBATE.....	6
THE STATUS QUO .....	8
HOW MUCH MILITARY SPENDING CAN THE UNITED STATES AFFORD? .....	11
BEYOND THE STATUS QUO.....	13
CONCLUSION .....	18
ENDNOTES .....	21
BIBLIOGRAPHY .....	27



## LIST OF ILLUSTRATIONS

FIGURE 1 -- THE BARTLETT MODEL .....	2
FIGURE 2 -- THE FOUR LEVELS OF UNCERTAINTY .....	4
FIGURE 3 -- DEFENSE BUDGET OF THE UNITED STATES COMPARED WITH THE NEXT TWENTY LARGEST DEFENSE BUDGETS IN THE WORLD .....	11
FIGURE 4 -- DEFENSE SPENDING IN DOLLARS AND IN PERCENT OF GROSS DOMESTIC PRODUCT .....	12
FIGURE 5 -- PROPOSED FORCE PLANNING TIMELINE .....	14





## LIST OF TABLES

TABLE 1 -- STRATEGIES FOR FUTURE PLANNING UNDER UNCERTAINTY .....	4
TABLE 2 -- FORCE PLANNING METHODOLOGIES.....	5
TABLE 3 -- ESTIMATED TEN YEAR COST OF SELECT WEAPON SYSTEMS .....	16



## DOD'S TRANSFORMATION EFFORTS – ONE STEP FORWARD, TWO STEPS BACK?

Transformation is a process designed to change fundamentally the way we fight by adapting new technologies to warfare, developing advanced operational concepts to best use those technologies, and reorganizing military structures to execute those concepts.

?Hans Binnendijk, Defense Daily, 23 December 2002

There is no security on this earth; there is only opportunity.

- GEN Douglas MacArthur

The Pentagon is on the verge of missing out on perhaps the greatest force planning opportunity of our lifetime. Unopposed by a significant military competitor, the United States has entered a period in which the chances of fighting a major war over the next twenty years are low. Instead of taking advantage of this relatively low-risk opportunity to fundamentally reassess and restructure itself in anticipation of future war fighting requirements, a risk averse Pentagon is failing its soldiers, sailors, airmen and marines by dangerously embracing the status quo. Despite a department-wide transformation effort that continues to gain momentum, the Department of Defense (DoD) continues to spend scarce resources on costly weapon systems that it does not need while failing to adequately invest in those technology enablers necessary for transformation to succeed.

Mounting operations and support costs in Afghanistan and Iraq have forced the Bush administration to fund recent budget shortfalls within DoD via supplemental appropriations approved by Congress. Yet, even under the specter of near-term reductions in these supplemental appropriations, the Pentagon has failed to produce a budget grounded in projected fiscal realities. Unless DoD aggressively accepts some risk in its personnel and acquisition accounts via targeted manpower reductions, upgrading existing weapon systems versus procuring costly cold war systems, and realigning future transformation related procurement programs to more reasonable budgets, its current transformation efforts will fail.

There are those that argue there can be no strategic pause for the United States, that we cannot turn inward, and that we must remain engaged with the world. However, especially now, as commitments in Afghanistan and Iraq are projected to slowly decline, there must be a strategic pause for the United States military. By doing so, we do not “abdicate America's world responsibilities” as some erroneously suggest. “Military organizations under the continuous threat of employment cannot afford the discontinuity that would result from taking time out to reshape themselves as they experiment with and eventually adopt new doctrines, organizations

and equipment.<sup>12</sup> To be successful during this transitory period, the United States must maintain a significant emphasis on cooperative undertakings with its international partners via political, economic, social and cultural means rather than relying solely on military solutions to our national security problems.<sup>3</sup> Much like trees that are pruned in the fall so they can rebound larger, healthier, and in the desired shape in the spring, so must our military transform to be adequately prepared for the evolving threats of the 21<sup>st</sup> century.

The purpose of this paper is to suggest that DoD's current force planning assumptions are flawed -- putting current transformation efforts at risk -- and to recommend an alternative approach. Specifically, strategic planning under conditions of uncertainty is explored as well as the negative impact that the National Military Strategy -- if not grounded in geo-political and fiscal reality -- can have on force planning decisions. Also included is an assessment of DoD's current force planning efforts and an affordability assessment of the current and projected future force structure. Finally, suggestions for an alternative approach to force planning are included, which better compliments the Pentagon's current transformation efforts.

### STRATEGY AND FORCE PLANNING UNDER UNCERTAINTY

Take calculated risks. That is quite different from being rash.

- George S. Patton

Strategy development and force planning is a dynamic process which seeks to achieve a balance among many competing variables. The Bartlett Model (see Figure 1) is a comprehensive approach to this process.

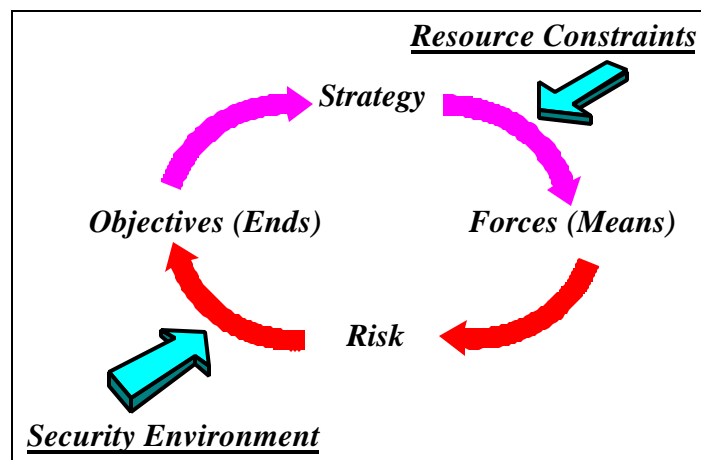


FIGURE 1 -- THE BARTLETT MODEL<sup>4</sup>

In simple terms, it confronts the force planner with a series of questions:

- What do we want to do (objectives)?
- How do we plan to do it (strategy)?
- What are we up against (threat)?
- What is available to do it (forces)?
- What are the mismatches (risks)?

Considered in light of the current security environment and existing resource constraints, a force planner can enter the model at any point, making iterative decisions until the tensions between all of the variables are either resolved or minimized.<sup>5</sup> For example, if you accept the notion of “no peer threat” for the next twenty years, then the risk of a major war during that period may be assessed as being relatively low. Bartlett’s Model suggests, then, that given a reduction in risk, objectives could be scaled up, available forces could be decreased, or strategy could be adjusted.

Potential mismatches between what we want (objectives) and what we have available to achieve what we want (forces) create risks. If the resultant risks are not acceptable then the objectives must be scaled back, the available forces must be increased, or the strategy must be adjusted. The question then becomes one of how much risk are we willing to accept. “A major difficulty in making decisions under uncertainty is that “good” decisions can have “poor” outcomes, and vice versa. Uncertainty adds the dimension of risk, complicating the choice process.”<sup>6</sup>

But what impact does future uncertainty have on this process? We must first define what level of future uncertainty we are facing and then adopt the appropriate strategy. An article in Harvard Business Review suggests that only four possible futures exist: one where the endpoint is known; one with a limited numbers of options; one with a range of options; and one of true ambiguity (see Figure 2).

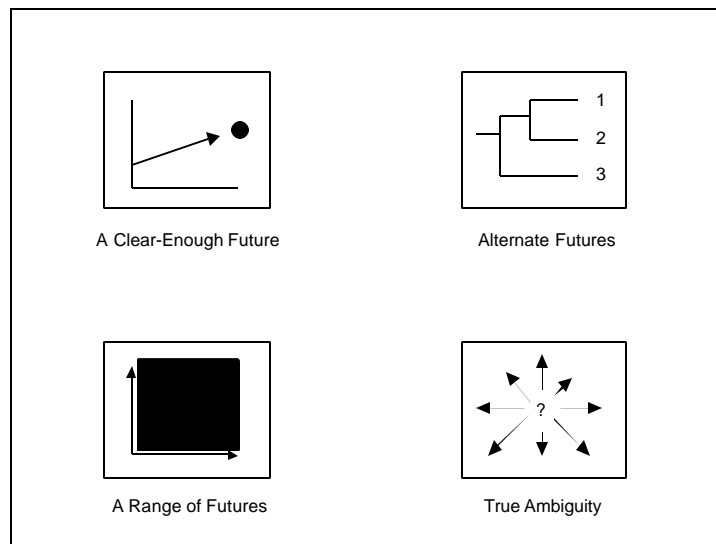


FIGURE 2 -- THE FOUR LEVELS OF UNCERTAINTY<sup>7</sup>

Each of these futures enjoy varying degrees of uncertainty, the least of which is associated with the “clear-enough” future and the most of which is associated with the “truly ambiguous” future. But given these levels of uncertainty, how does one adequately prepare for the future? “All strategy making begins with some form of situation analysis, that is, a picture of what the world will look like today and what is likely to happen in the future.”<sup>8</sup> After identifying the current or expected level of uncertainty, this article suggests that there are three strategies that one could use in making decisions. In the case of DoD, the military force planner – based on the level of uncertainty – could make force planning decisions intended to shape the future, adapt to the future, or simply reserve the right to play (see Table 1).

<b><i>Strategies</i></b>	<b><i>Characterized By</i></b>
<b>Shape the Future</b>	Playing a leadership role in establishing how an industry operates by setting standards or creating demand
<b>Adapt to the Future</b>	Capturing opportunities in existing markets and investing in organizational capabilities designed to keep options open in the future
<b>Reserve the Right to Play</b>	Investing sufficiently to stay in the game but avoiding premature commitments

TABLE 1 -- STRATEGIES FOR FUTURE PLANNING UNDER UNCERTAINTY<sup>9</sup>

With the demise of the Soviet Union, the primary focus of DoD for decades, one could reasonably argue that military force planners now find themselves facing a future characterized by true ambiguity. While the ambiguous future contains the greatest uncertainty, it may offer higher returns and involve lower risks for an organization, like the military, seeking to shape the environment. Since no player knows the best strategy, the “shaper” attempts to define a vision of the future that will drive the environment to a more stable and favorable outcome for his own organization. In doing he need not make huge monetary investments but may rely on his influence in the market instead, causing others to adapt to his future. Difficulties in managing the outcome of the ambiguous future often drive organizations toward “adapter” postures in which they take advantage of existing opportunities while make investments in organizational capabilities for potential future opportunities. While a “reserve the right to play” strategy is especially common – especially in the face of great uncertainty – it is also potentially dangerous. The “reserver” must be sure to rigorously reevaluate his incremental investments whenever important uncertainties are clarified. Otherwise, he may find himself ill-prepared to deal with future outcomes.

Because the ambiguous future is typically very transitional, changing quickly to a less ambiguous “range of futures” or “alternate futures” outcome, it may be more beneficial to an organization -- regardless of the strategy used -- to invest in organizational capabilities instead of “betting the farm” on what could be the wrong future outcome. In essence, the organization is able to buy time, waiting for the future to come into focus, before acting decisively.<sup>10</sup>

What these strategies all seem to suggest is that, in a period of uncertainty, investing in organizational capabilities may keep the organization competitive both in the short and long term. To the force planner, this is known as “capabilities based” planning, one of the two most recognized force planning methodologies (see Table 2).

	<i><b>Purpose</b></i>	<i><b>Drivers</b></i>	<i><b>Force Determinants</b></i>	<i><b>Total Force Requirement</b></i>	<i><b>Pitfalls</b></i>
<b>Threat Based</b>	Defeat the enemy	Scenarios	War gaming	Sized to prevail in desired number of contingencies	World is unpredictable; inherently retrospective
<b>Capabilities Based</b>	Optimize based on cost	Multifaceted and uncertain threats	Military judgment	Adequate and affordable mix of capabilities	Tendency towards sub-optimization

TABLE 2 -- FORCE PLANNING METHODOLOGIES<sup>11</sup>



In a switch from the “threat based” methodology used to counter the Soviet Union during the Cold War, the 2001 Quadrennial Defense Review directed Pentagon planners to pursue a “capabilities based” approach to force planning. “This approach is markedly different from the traditional “threat based” approach because it focuses on delivering capabilities to meet a wide range of security challenges rather than defeating a single threat.”<sup>12</sup> Consequently, whereas the “threat based” approach allowed force planners to deal with a “stable but evolving threat” during which changes to our force structure were primarily applications of “technologies and counter-technologies” against the Soviet Union, the application of the “capabilities based” approach against multiple, uncertain threats is far more difficult.<sup>13</sup>

Many argue that these two methodologies are entirely different. In fact, they are very much the same. When using the “capabilities based” approach, “the measures of effectiveness for force development must still be derived from a study of the threat and the environment in a collective sense. Evolving threats and the environment are as essential to designing a “capabilities based” force as they were to designing a “threat based” force.”<sup>14</sup> However, because the “capabilities based” threat is less defined, “it is just much harder to do.”<sup>15</sup> As a result, a significant problem force planners have with this approach is convincing Congress that military judgment has established the proper linkage between the uncertain future environment and the specific force levels requested.<sup>16</sup> Because “capabilities based” planning typically occurs in absence of a well defined threat, “problems can arise from the lack of a single, well articulated defense strategy, exacerbated by guidance that is neither prioritized nor fiscally constrained.”<sup>17</sup> Thus, when using the “capabilities based” approach without a coherent, national strategy to guide the force planner, the result is often sub-optimal.<sup>18</sup> That was certainly the case with the Pentagon’s two Major Regional Conflict (MRC) construct in the early 1990s.

## **THE TWO MAJOR REGIONAL CONFLICT DEBATE**

The United States must either revise substantially upward the resources it plans to devote to defense or must reconsider fundamentally the military forces it believes it needs to meet its military goals and its strategy for employing those forces in support of national objectives.

- 1997 RAND Strategic Appraisal

There is an impression among our nation’s warriors that the armed forces are at war, but the country isn’t. Resources, people and equipment are inadequate for the national security goals being pursued.

- GEN Barry R. McCaffrey

In the early 1990s, a significant share of the Pentagon's resources was focused on growing and maintaining the force necessary to support the unlikely contingency of two MRCs. As a result, research and development accounts remained flat-lined and the next generation weapon systems necessary to fight and win two MRCs were themselves candidates for cancellation for lack of money. In fact, a procurement "bow wave" existed in the Future Years Defense Plan, tens of billions of dollars which the Pentagon thought it might not be able to pay. In dealing with this fiscal shortfall, DoD officials sought out base closures, efficiencies gained through outsourcing traditionally military functions, and acquisition reform as the panacea. Yet the savings from these initiatives were meager at best, totaling less than one percent of the annual DoD budget.<sup>19</sup>

To truly eliminate this funding problem, either procurement programs had to be cut to reduce the approaching procurement "bow wave" or force structure had to be cut to pay the Pentagon's procurement bills. However, the Pentagon could do neither without jeopardizing the two MRC construct on which its force structure was based. Proponents, to include Former Secretary of Defense William Perry, argued that the two MRC construct had a deterrent effect that made fighting two wars implausible. If we had less capability, they reasoned, it would invite conflict.<sup>20</sup> However, to many, the two MRC construct appeared more and more to be "a force protection mechanism -- a means of justifying the current force structure -- especially for those searching for certainties in the post Cold War era."<sup>21</sup>

In the mid-1990s, as the Pentagon struggled with redefining its role in the post-cold war era, the evolving National Security Strategy of the United States precipitated a move away from the two MRC force planning construct to the 1-4-2-1 construct reflected in the 2004 National Military Strategy. For the Pentagon to be successful in support of the 2002 National Security Strategy, it must be capable of defending the homeland (1), deterring forward in and from four regions (4), conducting two overlapping "swift defeat" campaigns (2), while winning decisively in one of the two campaigns (1).<sup>22</sup> Because "the construct establishes mission parameters for the most demanding set of potential scenarios and encompasses the full range of military operations", it isn't surprising that the 1-4-2-1 -- like the two MRC construct before it -- demands more than our current force structure can realistically achieve.<sup>23</sup>

DoD's near term budget -- as a result of ongoing operations in Afghanistan and Iraq as well as the President's budget deficit reduction, tax cut, and Social Security reform initiatives -- will likely exhibit limited growth. It is unrealistic, then, to assume that the military's long term force structure will grow to meet 1-4-2-1 force structure requirements. In fact, the current rate of spending on operations within Afghanistan and Iraq are higher than predicted. "At some point, it

may begin to crowd out other spending priorities.”<sup>24</sup> One could argue, then, that as procurement funding is reduced to pay for increased force structure and operations and support costs, 1-4-2-1 is fast becoming an inhibitor to acquiring the capabilities DoD will need to successfully transform. Remembering Bartlett’s model, goals must be adjusted based on the means available to achieve them. Especially in this time of low risk and growing resource constraints, it is imperative that we abandon the 1-4-2-1 construct and move towards a smaller, lower cost, yet more effective force structure. DoD must not repeat the same mistake it made with the two MRC construct, during which it mortgaged future procurement accounts to fund an unnecessarily large and costly force structure. If it does, it may find itself unnecessarily defending the status quo while it should be transforming.

## **THE STATUS QUO**

Bureaucracy defends the status quo long past the time when the quo has lost its status.

- Laurence J. Peter

The United States is now in a period where there are few vital threats to its security, but when the concept of warfare is fundamentally changing.<sup>25</sup> Yet, precisely when it should be promoting fundamental change within the military to meet future threats, the Pentagon continues to embrace the 1-4-2-1 construct and its Cold War procurement practices. Like a renowned baseball coach once said, it’s *deja vu* all over again.

This status quo, risk averse approach to our national security in an already low risk environment is driving a force structure that is too large for our current needs. Because it is concerned that it doesn’t actually have a 1-4-2-1 capability, especially in light of ongoing operations within Afghanistan and Iraq, the Pentagon finds itself in the predicament of being unable to reduce manpower or its procurement accounts. Thus, the Pentagon is forced to ask -- even in a period of constrained monetary resources -- for more money. So, even when national security risks to the United States are relatively low, the Pentagon continues to spend even more money on the defense of the nation.

Even though the 1-4-2-1 construct is based on the capabilities-based planning guidance within the 2001 QDR, the Pentagon continues to procure Cold War era weapon systems that, while technically advanced, are prohibitively expensive and offer little increase in military utility. Because of the lack of a credible threat against the systems currently in our inventory, it is simply impossible to justify the simultaneous procurement of expensive combat systems like the F/A-18E/F, the V-22, the F-22, and the Joint Strike Fighter. Proponents of these procurements,

especially with regards to new aircraft, continue to argue that they must be built to counter those systems being built in Europe and Russia. Yet they fail to tell their audiences that new European and Russian aircraft are too expensive for any country -- even for those that build them -- to procure in large numbers.

Admittedly, one of the more difficult things for DoD to deal with in any force planning exercise, transformational or otherwise, is the element of politics. DoD force planners, by necessity, plan from within. Yet Congress is a critical external stakeholder in the force planning process. Force example, in response to the recent Bush administration proposal to reduce the numbers of F/A-22 procured, Georgia Congressman Phil Gingrey, whose district is home to the Lockheed Martin plant that assembles the aircraft, threatened to fight the initiative. According to Congressman Gingrey, "it's worth noting that funding cuts to the F/A-22 program don't just threaten our nation's safety, they threaten our community's economic safety."<sup>26</sup> Yet some would say that "defending an expensive, outdated arms program mainly because of jobs it provides the community is special-interest, pork-barrel politics, motivated more by selfishness than by real concern for the well-being of the country or those who fight for it."<sup>27</sup>

In reality, building F-22s that we don't really need will make this country less secure and make our troops more vulnerable. That's because every dollar spent on that outdated weapon system is a dollar that is not available to field more important and modern weaponry designed to meet the challenges of today and tomorrow, rather than the challenges of yesteryear.<sup>28</sup>

And this is the conundrum. Not only do DoD weapons programs serve to adequately prepare the military for the next conflict, but they also serve to funnel money back into congressional districts and states from which the electorate ultimately benefit. That should not excuse, however, the irresponsible stewardship of defense dollars by either the Bush administration or by Congress. The result will surely be a sub-optimized force planning solution for DoD.

By embracing the status quo, the Pentagon has been forced to "maintain continuity of capability while simultaneously preparing for the future."<sup>29</sup> Yet, this future remains quite ambiguous. So how accurate will DoD's force planning assumptions be? To hedge its bet, the Pentagon has relied more and more on unproven technology -- primarily in the form of network centric operation related hardware and software -- which is projected to provide it with transformational efficiencies and flexibility in war fighting. To many, it appears that the Pentagon is wrongly letting technology dictate military strategy.<sup>30</sup> What it has failed to realize from the past is that technical solutions to security problems -- even when those security problems no longer exist -- can generate powerful inertial forces that are difficult to stop or

change.<sup>31</sup> Even the Secretary of Defense has found it difficult to change the course of established weapon procurement programs.

When he first took over the Pentagon, Defense Secretary Donald Rumsfeld talked the talk, threatening to cancel some of the military's older programs in favor of weapons for the new world. Ashton Carter, a former Assistant Secretary of Defense in the Clinton administration, says Rumsfeld hit a wall. Rumsfeld had difficulty getting rid of the B-1 bomber, really a 1970's technology bomber of no great utility to the U.S. military and of great expense, and why is that? Because they had an iron triangle of support – contractors, their friends in Congress and their friends in the armed services who wanted to buy them.<sup>32</sup>

Current efforts by the Pentagon to accelerate transformation are widely applauded but may be moving in the wrong direction, resulting in capabilities that we do not want or do not need. For example, Secretary of Defense Rumsfeld has been criticized as “too focused on the near-term problem of fighting terrorism while ignoring the military's longer range, post-2020 concerns about China.”<sup>33</sup> Additionally, some allege that the senior leadership within the Office of the Secretary of Defense “undervalue traditional programs designed for theater warfare for a focus on unproven systems” and don't “take into account the evolutionary improvement of more conventional manned aircraft.”<sup>34</sup> While no one debates the need for transformation, we cannot throw caution to the wind. “In the zeal to try and win the next war, reformers shouldn't be too quick to abandon what won the last one.”<sup>35</sup> And, because these transformational efforts imply significant long-term changes to the size and structure of the United States military, “arriving at a transformed force must include exploration of new capabilities, as well as the reengineering of existing capabilities.”<sup>36</sup>

Without a more rational and less dogmatic approach to future force planning, it is likely that current transformation efforts will result in a force structure that is not well matched to the security environment of the future. There is also a growing danger that the procurement account cuts that DoD is relying on to fund some of its transformation efforts may not materialize. Secretary Rumsfeld's recent Fiscal Year 2006 budget submission – with a focus on faster, more flexible fighting forces and high tech weaponry at the expense of traditional aircraft and ship programs designed to fight conventional forces, not guerrillas – was met with significant opposition from Congressmen and Senators with “traditional” procurement programs in their districts and states.<sup>37</sup> Obviously, a failure by DoD to achieve these politically sensitive cuts could result in the termination, restructuring, or deferral of other programs in order to fund continuing operations in Afghanistan and Iraq and, to a lesser degree, ongoing transformation efforts. Imagine the DoD only partially transformed, with a force structure full of legacy equipment in need of modernization, the Army's modularity effort only partially completed with

no one unit looking the same, and billions of dollars spent on small quantities of complex weapon systems too expensive to replace. Could DoD's transformation plan be too fiscally aggressive in the resource-constrained environment it is now entering? History would suggest not. But the President's emerging domestic agenda suggests otherwise.

### HOW MUCH MILITARY SPENDING CAN THE UNITED STATES AFFORD?

Wars and defense spending in general can neither be justified nor simply rejected out of hand on economic grounds alone. The United States can afford to engage in military conflicts if it decides that this is in its best interests.

- Murray Weidenbaum

"Available economic research tends to support the view that the United States can "afford" whatever level of military outlays it believes is necessary."<sup>38</sup> Yet, there are persuasive arguments that the U.S. is spending far too much on defense, especially given that the DoD budget is approximately equal to that of the next twenty largest defense budgets in the world (see Figure 3). Yet, as we look at defense spending over the last forty years, we find that the United States can reasonably afford to spend approximately four percent of its gross domestic product (GDP) – a level well within historical norms – on its defense.<sup>39</sup> As Figure 4 shows, demand for military forces in past years has waxed and waned.

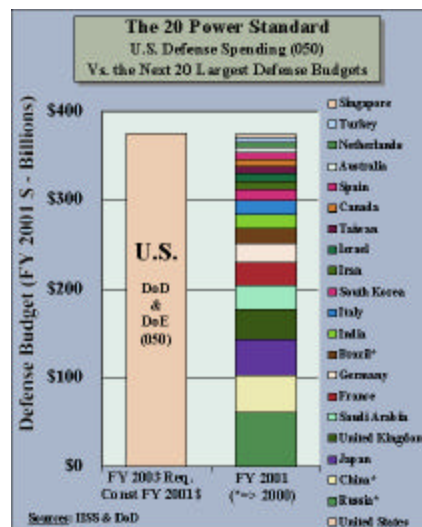


FIGURE 3 -- DEFENSE BUDGET OF THE UNITED STATES COMPARED WITH THE NEXT TWENTY LARGEST DEFENSE BUDGETS IN THE WORLD<sup>40</sup>

For example, during the period immediately following the fall of the Berlin Wall, the need for the temporary use of United States military forces not only increased, but also varied considerably. And, if the past is prologue, we may continue to see troop deployments “whipsawing” up and down, making future demands on military force structure difficult to predict.<sup>41</sup> But, again, the historical data suggests that these variations in force structure are wholly affordable.

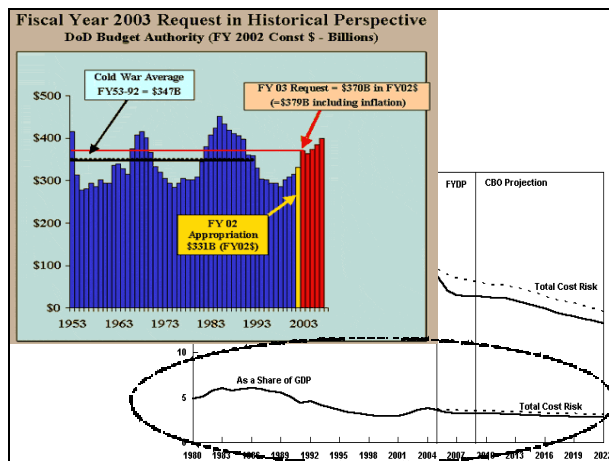


FIGURE 4 -- DEFENSE SPENDING IN DOLLARS AND IN PERCENT OF GROSS DOMESTIC PRODUCT<sup>42</sup>

“Given a focused and well-balanced modernization strategy, the current level of spending would be adequate to maintain a force capable of protecting U.S. territory and interests today, as well as to field an adequate force in the future.”<sup>43</sup> If what we are spending on defense is reasonable now, and history suggests that we can easily spend more, then why are we concerned with the defense budget at all? Because the Pentagon, as a result of other pressing fiscal needs within the Bush administration, is facing a significant gap between projected budgets and spending requirements. For example, the Bush administration wants to cut federal deficits while funding permanent tax cuts and social security reform. And Congress, despite calls from DoD that it is unnecessary to do so, is moving towards legislating a permanent increase in Army end strength as a result of perceived chronic manpower shortages in Afghanistan and Iraq. Add to this equation the fact that DoD relies heavily on supplemental spending appropriations – that may soon disappear – to fund its core functions, to include its transformation efforts, and a fiscal “perfect storm” begins to emerge.

In absence of President Bush's domestic agenda funding requirements, Congress could easily authorize -- and the country could well afford -- an increase in defense spending from the current four percent GDP to a cold war level of six percent GDP, an increase of approximately \$250 billion dollars. The resultant funding would cover increased manpower, procurement of costly cold war era weaponry, transformation initiatives, and then some. However, because of competing priorities within the Bush administration, the reality is that supplemental spending may soon evaporate, causing DoD to cut acquisition and research accounts in order to protect operations and support spending necessary for forces deployed overseas.<sup>44</sup> Already, the White House's Office of Management and Budget is proposing a cut of \$30 billion dollars in DoD's budget over the next six years. And others within the defense industry are projecting a potential reprogramming of \$8 billion in fiscal year 2005 funds from modernization to operations and support accounts. The result of all this could be program terminations, restructurings, or deferrals of programs like the Army's \$117 billion dollar Future Combat System, all of which could alter DoD's transformation goals.<sup>45</sup> Hence, there is the need for fiscal economies.<sup>46</sup> So given this landscape, what can be done?

## **BEYOND THE STATUS QUO**

When this administration took office three years ago, the President charged us with a mission -- to challenge the status quo, and prepare the Department of Defense to meet the new threats our nation will face as the 21<sup>st</sup> century unfolds.

- Secretary of Defense Donald H. Rumsfeld

The major institutions of American national security were designed in a different era to meet different requirements. All of them must be transformed.

- The National Security Strategy of the United States of America,  
September 2002

When considering alternatives to the status quo, DoD cannot "be too quick to abandon what won the last war."<sup>47</sup> Yet, to many, it appears as if DoD is doing exactly that in favor of systems "like unmanned aerial vehicles, the development of data links, network-centric operations, computer network attack, information warfare and directed energy."<sup>48</sup> While no one argues that changes are needed, there are those -- like former Chairman of the Joint Chiefs of Staff Admiral Crowe -- that believe that "the military is slow to change and for good reason. The problem with being truly revolutionary is that you have to be right. If you get it wrong then you're really in trouble."<sup>49</sup> Despite Secretary of Defense Rumsfeld's emphasis on non-traditional weapon systems, the Bush administration has been criticized for protecting "the traditional



priorities of the military services” by proposing to replace “most major combat systems of the military with systems costing twice as much.”<sup>50</sup> Given that Secretary Rumsfeld is relying on cuts in these traditional programs to fund the Pentagon’s current transformation efforts, does this mean that there a serious disconnect between DoD’s and the Bush administration’s transformation agenda or is the problem “more a classic one of unwillingness to set priorities?”<sup>51</sup>

Domestic politics aside, the bottom line is that -- given the current low risk geo-political and geo-military environment -- the Pentagon must aggressively accept risk now. DoD must explore ways to fundamentally change the military in preparation for the future while simultaneously maintaining enough of its current capabilities to defend the United States in the near to mid term while it transforms. By adopting a two phase, “capabilities based” approach similar to the one shown in Figure 5, the Pentagon could defer any major force redesign decisions for ten years while investing in a robust research and development and experimentation effort designed to stimulate innovation and capitalize on the resultant technologies. At the beginning of the second phase, the Pentagon could then assess the current security environment, commit to a definitive force redesign effort, and initiate the procurement of new, enabling technologies, all prior to the rise of a projected peer threat.

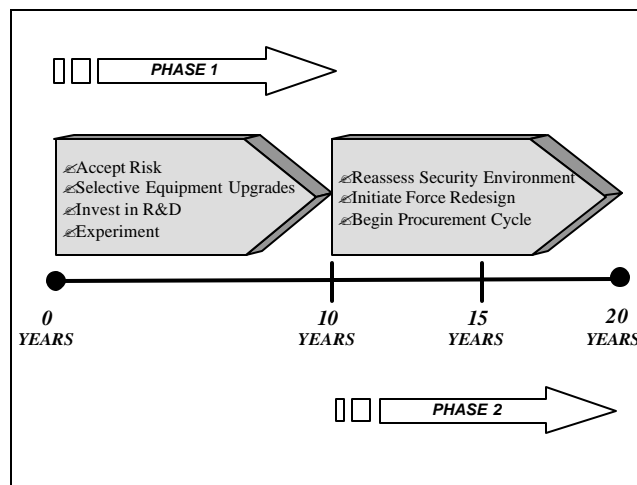


FIGURE 5 -- PROPOSED FORCE PLANNING TIMELINE

During the first phase of this force planning effort, the Pentagon must invest heavily in research, development and experimentation efforts with the focus on procuring next generation or “leap ahead” technologies for use in meeting the challenges of a rising peer competitor.

While mounting an aggressive research and development effort, DoD must also aggressively test and evaluate -- via Joint experimentation -- those concepts that appear to offer our next generation forces increased capabilities. The resultant technologies would then become the key enablers on which the force structure redesign of the second phase would be based.

However, there is an inherent danger here. To pursue exclusively the technology path at the expense of the human element is to invite strategic failure at some time in the future.<sup>52</sup> Force planners must be aware that techno centric thinking can lead to a dangerous de-emphasis of factors critical to success in war. War is not a mechanistic system of precise, positive control or synchronized, centralized schemes. Rather, it is characterized by complexity, apparent randomness, sensitivity to initial conditions, friction, unpredictability, disorder, and fluidity.<sup>53</sup> "Although advanced technical capabilities are indispensable to force transformation, leaders and Soldiers will remain the centerpiece of Future Force formations. Exploiting the full potential of tomorrow's technical capabilities will require an unprecedented breadth and depth of technical and tactical skill, individual and organizational adaptability, and personal initiative and creativity."<sup>54</sup>

Funding the first phase will require interim cuts in both force structure and existing procurement programs. Reductions in force structure would be implemented as forces currently deployed in Afghanistan and Iraq are redeployed. Similarly, procurement of weapon systems that are prohibitively expensive and offer little increase in military utility must be scaled back, if not terminated, in favor of modernizing existing war fighting platforms to provide DoD with adequate yet affordable military capabilities for the near to mid term. And, finally, older weapon systems, with already high -- and growing -- operations and support costs, must be retired. The funding made available through these force structure adjustments must then be immediately invested in modernization and transformation efforts. How much funding could realistically be made available? Roughly two and a half years ago, the United States Air Force launched a force structure study now known as The Future Total Force with the intention of "firming up a new force structure plan focused on maximizing capabilities under fiscal constraints."<sup>55</sup> Built around the idea of having a smaller, but more capable force, Air Force officials -- through manpower reductions, selective modernization of munitions and weapons platforms, networking initiatives, and the retirement of approximately twenty five percent of its legacy fighter force -- "identified \$5 billion worth of savings over the current future years defense plan that could be reinvested in modernization."<sup>56</sup> By extension, DoD-wide force structure adjustment efforts -- made in concert with adjustments to the current National Security Strategy and National Military Strategy -- could yield a significantly greater amount.

It is critical that DoD's modernization and investment strategy for this funding be grounded in the geo-political and fiscal realities of the next twenty years. Admittedly, one cannot accurately predict the future. Yet many, like the National Intelligence Council's 2020 Project on Mapping the Global Future, now conclude that "the United States will retain enormous advantages, playing a pivotal role across the broad range of issues – economic, technological, political, and military – that no other state will match by 2020."<sup>57</sup> Thus, it is simply impossible to justify the simultaneous procurement of expensive combat systems like the F/A-18E/F, the F-22, the V-22, and the Joint Strike Fighter which now threaten other DoD transformation efforts. These procurement cuts must be made with the U.S. defense industrial in mind, however, as it is critical that the U.S. retain the ability to adequately respond via timely surges in production should a significant threat suddenly materialize. The United States cannot repeat the mistakes made during mobilization for World War II during which "troops were being mobilized before equipment was available."<sup>58</sup>

In addition to force structure and procurement reduction, "we can also save money simply by finding more clever and innovative ways to operate our forces."<sup>59</sup> For example, by flying existing aircraft longer, refitting and refurbishing existing ships and submarines rather than procuring new ones, procuring fewer new aircraft, delaying mid-to-far term modernization efforts, and by accelerating the bilateral reduction in nuclear forces and reducing the scope of National Missile Defense, billions of dollars could be saved. In fact, given the notional force structure reduction shown in Table 3, monetary savings over the first ten years could conservatively exceed an estimated 250 billion dollars. These savings must then be invested into aggressive, broad-based research and development initiatives looking for technology enablers which, if deemed worthwhile, would be fielded when needed.

	<b><i>Cost (estimated)</i></b>
<b>Army Heavy Division O&amp;M</b>	\$10 Billion
<b>Navy Carrier Battle Group O&amp;M</b>	\$50 Billion
<b>Carrier Based Air Procurement</b>	\$152 Billion
<b>Land Based Air Procurement</b>	\$56 Billion

TABLE 3 -- ESTIMATED TEN YEAR COST OF SELECT WEAPON SYSTEMS <sup>60</sup>

Of course, a force structure reduction of this magnitude would require the administration to make adjustments to the National Security Strategy and National Military Strategy, relying more on diplomacy than on the military in resolving national security issues. This is not to say, however, that a more selective commitment of United States military forces implies an inability

to protect our national interests. Diplomacy, deterrence -- in the form of nuclear and advanced conventional weapons -- and the swift and decisive use of our smaller, interim force -- when needed -- must and can prevail.

At the beginning of the second phase of the proposed force planning timeline, a thorough assessment of the security environment must be conducted and a corresponding force redesign initiated. The technology enablers developed during phase one would be applied here in support of the force redesign and could take on many different forms, from a major weapon system to a command and control system appliqué. In the past, the Pentagon has been duped into believing that weapons based on superior technology would protect it from all threats.<sup>61</sup> As a result, caution must be exercised when determining the role technology will play in the new construct. The Pentagon must also consider the capabilities of the lesser threats and include counter-capabilities in our force redesign. As we have been slow to learn, even legacy weapons, used with skill and discipline, can be brutally effective.

There are, of course, unintentional consequences to the use of new technology that must be considered during the force redesign process. Take, for example, the Pentagon's increasing reliance on precision guided munitions which reduce the "risk to forces and minimize collateral damage."<sup>62</sup> Because they lack similar capability, Russian military officials:

... believe nuclear weapons provide the best answer to the challenge posed by conventionally armed precision guided munitions. Western nations could employ such "smart munitions" to degrade Russian strategic forces, without ever having to go nuclear themselves. Consequently, Russia should enjoy the right to consider first (enemy) use of precision weapons as the beginning of unrestricted nuclear war against it.<sup>63</sup>

In the past, the Pentagon has uniformly appreciated new threats to national security too late and has been slow to react once it does. One mechanism to improve the Pentagon's reaction time in those circumstances is the continued reform of both its resource allocation system and acquisition system. Admittedly, DoD's resource allocation and budgeting processes are very complex and are necessarily tied to the development of defense authorization and appropriations submissions. However, it must be noted here that "the resource allocation process is not only too slow but drives decisions and actions on its timetable as opposed to supporting timely transformation actions."<sup>64</sup> Additionally, effort must continue to be focused on DoD acquisition reform since "the acquisition process established in the mid-1980s was designed to deal with the procurement of platforms and not to stimulate incremental improvements to legacy systems."<sup>65</sup> As suggested in Figure 5, procurement cycle lengths for major weapon systems must be reduced to no more than ten years, perhaps fewer. While this

may be overly optimistic, it is wholly representative of procurement cycle lengths of major end items -- like commercial aircraft -- produced by the civilian sector. Success here depends on a frozen set of achievable requirements, the incorporation of mature technologies, and -- as much as practical -- stable funding. Of course, success here would hinge directly on the Pentagon's ability to secure support for its force redesign efforts from Congress. Thus, effective acquisition reform would be a key element in the success of the second phase. If the Pentagon could not equip its new force structure within ten years, it certainly could not meet the challenges of an emerging peer threat.

Finally, the Pentagon must remember that holdovers, which represent the old culture, will almost certainly resist change. Left unchecked, their recalcitrance could undermine worthwhile innovations. The politics of incremental innovation are comparatively free of conflict while the politics of innovative departure are likely to be complex.<sup>66</sup>

## CONCLUSION

He who refuses to embrace a unique opportunity loses the prize as surely if he had failed.

- William James

To succeed in its transformation efforts, DoD must make significant investments in both modernizing the current force by procuring evolutionary systems to handle near-term security risks and in the research, development and acquisition of revolutionary systems that will enable the United States to maintain its superpower status into the future.<sup>67</sup> These investments must include more than just technology. Besides, "dramatic advancements in reducing the size and weight of ground forces will require enormous investments and exploiting technologies which are not fully mature."<sup>68</sup> Transformational investments must include arguably the most important piece of the transformation puzzle -- the soldiers, sailors, airmen and marines. In the first Gulf War, it was -- in many cases -- difficult to tell where technology left off and superior training began.<sup>69</sup>

While we cannot make the mistake of interpreting "no peer competitor" to mean "no threat", "it is unlikely that a single nation will be able to match the United States across all instruments of national power --diplomatic, informational, military, and economic" during the next twenty years.<sup>70</sup> Consequently, the Pentagon must accept risk now vice later, and embrace those changes that will continue to keep it the world's premiere fighting force well into the 21<sup>st</sup> century. A word of fiscal caution however. "Given the option the United States has over the next twenty years to address regional challenges, it may not be wise to break the bank to field

extremely expensive expeditionary capabilities when an adequate capacity may be sufficient.”<sup>71</sup>  
Perhaps Michael O'Hanlon has it right with his argument for “rapid incrementalism”. “The right way to go in the future is adding new capabilities onto existing forces when possible, while also trying to streamline and subtract obsolete capabilities. One does not need to rebuild the military from scratch.”<sup>72</sup>

WORD COUNT=6,752



## ENDNOTES

<sup>1</sup> Fredrick W. Kagan, "Wishful Thinking on War," *The Weekly Standard*, 15 December 1997, 29.

<sup>2</sup> Raoul H. Alcala, "Guiding Principles for Revolution, Evolution, and Continuity in Military Affairs," in *Whither the RMA: Two Perspectives on Tomorrow's Army*, ed. John W. Mountcastle (Carlisle Barracks: U.S. Army War College, Strategic Studies Institute, April 1994), 18.

<sup>3</sup> Marek Thee, *Whatever Happened to the Peace Dividend* (Nottingham, UK: Russell Press, 1991), 109.

<sup>4</sup> Henry C. Bartlett, "The Art of Strategy and Force Planning," in *Strategy and Force Planning*, ed. Strategy and Force Planning Faculty (Newport: Naval War College Press, 1997), 18.

<sup>5</sup> *Ibid.*, 17.

<sup>6</sup> Charles A. Holloway, *Decision Making Under Uncertainty: Models and Choices* (Englewood Cliffs: Prentice-Hall, 1979), 11.

<sup>7</sup> Hugh Courtney, Jane Kirkland, and Patrick Viguerie, "Strategy Under Uncertainty," *Harvard Business Review* 75 (November-December 1997), 70-71.

<sup>8</sup> *Ibid.*, 72.

<sup>9</sup> *Ibid.*, 73.

<sup>10</sup> The discussion in the previous paragraph was drawn from excerpts of the *Harvard Business Review* article, "Strategy Under Uncertainty."

<sup>11</sup> Bartlett, 25, and John F. Troxell, *Force Planning in an Era of Uncertainty: Two MRCs as a Force Sizing Framework* (Carlisle Barracks: U.S. Army War College, Strategic Studies Institute, 15 September 1997), 3.

<sup>12</sup> Department of Defense, *Joint Defense Capabilities Study Final Report* (Washington, D.C.: U.S. Department of Defense, December 2003), 1-2.

<sup>13</sup> Joint Forces Command, *The Joint Operational Environment – Into the Future (Coordinating Draft)* (Norfolk, VA: U.S. Joint Forces Command, 11 January 2005), 4.

<sup>14</sup> *Ibid.*, 6.

<sup>15</sup> *Ibid.*

<sup>16</sup> Troxell, 3.

<sup>17</sup> Department of Defense, 2-4.



<sup>18</sup> Mackubin T. Owens, "An Overview of U.S. Military Strategy: Concepts and History," in *Strategy and Force Planning*, ed. Strategy and Force Planning Faculty (Newport: Naval War College Press, 1997), 401.

<sup>19</sup> The ideas in this paragraph are based on remarks made by a speaker participating in a lecture at the U.S. Naval War College.

<sup>20</sup> David Jablonsky, *Time's Cycle and National Military Strategy: The Case for Continuity in a Time of Change* (Carlisle Barracks: U.S. Army War College, Strategic Studies Institute, 1 June 1995), 54.

<sup>21</sup> Department of Defense, *Report of the National Defense Panel* (Washington, D.C.: U.S. Department of Defense, December 1997), 23.

<sup>22</sup> Joint Chiefs of Staff, *National Military Strategy of the United States of America* (Washington, D.C.: Joint Chiefs of Staff, 2004), 18.

<sup>23</sup> Ibid.

<sup>24</sup> Peter Grier, "The Rising Tab for U.S. War Effort," *The Christian Science Monitor*, 17 December 2004, p. 1.

<sup>25</sup> Paul Bracken, "The Military After Next," in *Strategy and Force Planning*, ed. Strategy and Force Planning Faculty (Newport: Naval War College Press, 1997), 644.

<sup>26</sup> Phil Gingrey, "Rising Miles above the Rest," *The Atlanta Journal-Constitution*, 12 January 2005, p. 11.

<sup>27</sup> "Grounds for Grounding," *The Atlanta Journal-Constitution*, 12 January 2005, p. 10.

<sup>28</sup> Ibid.

<sup>29</sup> Alcala, 18.

<sup>30</sup> Alfred Kaufman, "Caught in the Network," *Armed Forces Journal* 142 (February 2005): 21.

<sup>31</sup> Alex Roland, *The Technological Fix: Weapons and the Cost of War* (Carlisle Barracks: U.S. Army War College, Strategic Studies Institute, 6 June 1995), 16.

<sup>32</sup> "Fighting the Next War: Reshaping the Military," 2002; available from <<http://www.insideout.org/documentaries/fightingthenextwar/read2.asp>>; Internet; accessed 26 February 2005.

<sup>33</sup> David A. Fulghum and Robert Wall, "Style Change," *Aviation Week and Space Technology* 162 (24 January 2005): 28.

<sup>34</sup> David A. Fulghum and Robert Wall, "Near Miss, for Now," *Aviation Week and Space Technology* 162 (14 February 2005): 30.

<sup>35</sup> "Fighting the Next War: Reshaping the Military."

<sup>36</sup> Joint Forces Command, 5.

<sup>37</sup> Jonathan Karp and Andy Pasztor, "Pentagon Request May Set Off Turf Battles," *The Wall Street Journal*, 8 February 2005, p. 14.

<sup>38</sup> Murray Weidenbaum, "How Much Defense Spending Can We Afford?" *Public Interests* 151 (Spring 2003): 61.

<sup>39</sup> Jack Spencer, James Jay Carafano, and Baker Spring, "Defense Priorities for the Next Four Years," 11 January 2005; available from <<http://www.heritage.org/Research/NationalSecurity/em953.cfm>>; Internet; accessed 26 February 2005.

<sup>40</sup> "The 20 Power Standard: U.S. Defense Spending Versus the Next 20 Largest Defense Budgets," 2002; available from <<http://www.insideout.org/documentaries/fightingthenextwar/imagepop.asp>>; Internet; accessed 26 February 2005.

<sup>41</sup> James Jay Carafano, "The Army Goes Rolling Along: New Service Transformation Agenda Suggests Promise and Problems," 23 February 2004; available from <<http://www.heritage.org/Research/HomelandDefense/bg1729.cfm>>; Internet; accessed 26 February 2005.

<sup>42</sup> "Fiscal year 2003 Request in Historical Perspective," 2002; available from <<http://www.insideout.org/documentaries/fightingthenextwar/imagepop4.asp>>; Internet; accessed 26 February 2005, and Congressional Budget Office, *The Long-Term Implications of Current Defense Plans: Summary Update for FY2005* (Washington, D.C.: U.S. Congressional Budget Office, September 2004).

<sup>43</sup> Spencer, 1.

<sup>44</sup> David A. Fulghum and Robert Wall, "Budget Bloodbath," *Aviation Week and Space Technology* 162 (10 January 2005): 20.

<sup>45</sup> Megan Scully, "Reality Check," *Armed Forces Journal* 142 (February 2005): 34.

<sup>46</sup> Paul Mann, "Revisionists Junk Defense Revolution," *Aviation Week and Space Technology* 155 (27 April 1998): 38.

<sup>47</sup> "Fighting the Next War: Reshaping the Military."

<sup>48</sup> Fulghum, *Near Miss, For Now*, 30.

<sup>49</sup> "Fighting the Next War: Reshaping the Military."

<sup>50</sup> Michael O'Hanlon, "Limiting the Growth of the U.S. Defense Budget: An Alternative to the Bush Administration Numbers," March 2002; available from <<http://www.brookings.edu/comm/policybriefs/pb95.htm>>; Internet; accessed 26 February 2005.

<sup>51</sup> Ibid.

<sup>52</sup> Troxell, 30.

<sup>53</sup> Mackubin T. Owens, source unknown.

<sup>54</sup> Department of the Army, *The Army in Joint Operations: The Army's Future Force Capstone Concept 2015-2054: Final Coordinating Draft*, TRADOC Pamphlet 525-3-0 (Washington, D.C.: U.S. Department of the Army, 27 February 2005), 2.

<sup>55</sup> Elizabeth Rees, "USAF's Future Force Structure Plan Spawns \$5 Billion in FYDP Savings," *Inside the Air Force*, 25 February 2005, 1.

<sup>56</sup> Ibid.

<sup>57</sup> National Intelligence Council, *Mapping the Global Future – Report on the National Intelligence Council's 2020 Project* (Washington, D.C.: U.S. National Intelligence Council, December 2004), 17.

<sup>58</sup> "Mobilization – The U.S. Army in World War II, The Fiftieth Anniversary," [n.d.]; available from <<http://www.army.mil/cmh-pg/documents/mobpam.htm>>; Internet; accessed 13 March 2005.

<sup>59</sup> Michael O'Hanlon, "Double the Savings: Pentagon Reforms and Cutbacks," 11 January 2005; available from <<http://www.brookings.edu/views/op-ed/ohanlon/20050111.htm>>; Internet; accessed 26 February 2005.

<sup>60</sup> William E. Odom, "Transforming the Military," *Foreign Affairs* 76 (July/August 1997): 58.

<sup>61</sup> Thee, 3.

<sup>62</sup> Charles J. Dunlap, Jr., "Joint Vision 2010: A Red Team Assessment," *Joint Force Quarterly*, no. 17 (Autumn/Winter 1997/1998): 49.

<sup>63</sup> Ibid.

<sup>64</sup> John P. White and John Deutch, *Building Capability from the Technical Revolution That Has Happened*, Report of the Belfer Center Conference on National Security Transformation (Carlisle Barracks: U.S. Army War College, Strategic Studies Institute, June 2004), 8.

<sup>65</sup> Ibid., 10.

<sup>66</sup> Quote by an anonymous Admiral, source unknown.

<sup>67</sup> Jack Spencer, "Guidelines for Modernizing America's Armed Forces," 28 March 2001; available from <<http://www.heritage.org/Research/NationalSecurity/BG1422.cfm>>; Internet; accessed 26 February 2005.

<sup>68</sup> Carafano.

<sup>69</sup> Mann, 37.

<sup>70</sup> Joint Forces Command, 172.

<sup>71</sup> Carafano.

<sup>72</sup> Mann, 37-38.



## BIBLIOGRAPHY

- Alcala, Raoul H. "Guiding Principles for Revolution, Evolution, and Continuity in Military Affairs." In *Whither the RMA: Two Perspectives on Tomorrow's Army*, ed. John W. Mountcastle. Carlisle Barracks: U.S. Army War College, Strategic Studies Institute, April 1994.
- Bartlett, Henry C., G. Paul Holman, Jr., and Timothy E. Somes. "The Art of Strategy and Force Planning." In *Strategy and Force Planning*, ed. Strategy and Force Planning Faculty. Newport: Naval War College Press, 1997.
- Bernhard, Frank J. "Calculating for Uncertainty." *Intelligent Enterprise*, 10 August 2003, sec. Feature, p. 30 (2423 words). Database on-line. Available from Lexis-Nexis. Accessed 4 December 2004.
- Bracken, Paul. "The Military After Next." In *Strategy and Force Planning*, ed. Strategy and Force Planning Faculty. Newport: Naval War College Press, 1997.
- Bush, George W. *The National Security Strategy of the United States of America*. Washington, D.C.: The White House, September 2002.
- Capaccio, Tony. "Cost Growth Weakens Case for F/A-22 and JSF, GAO Says." 3 March 2005. Available from <<http://ebird.afis.osd.mil/ebfiles/e20050304355556.html>>. Internet. Accessed 5 March 2005.
- Carafano, James Jay. "The Army Goes Rolling Along: New Service Transformation Agenda Suggests Promise and Problems." 23 February 2004. Available from <<http://www.heritage.org/Research/HomelandDefense/bg1729.cfm>>. Internet. Accessed 26 February 2005.
- Christenson, Sig. "Chief Rejects Air Force 'Death Spiral' Talk." *The San Antonio Express-News*, 28 February 2005.
- Courtney, Hugh, Jane Kirkland, and Patrick Viguerie. "Strategy Under Uncertainty." *Harvard Business Review* 75 (November-December 1997): 67-79.
- "DoD Cuts Not What They Seem." 10 January 2005. Available from <<http://ebird.afis.osd.mil/ebfiles/e20050110345064.html>>. Internet. Accessed 10 January 2005.
- Dunlap, Charles J., Jr. "Joint Vision 2010: A Red Team Assessment." *Joint Force Quarterly*, no. 17 (Autumn/Winter 1997/1998): 49.
- "Fighting the Next War: Reshaping the Military." 2002. Available from <<http://www.insideout.org/documentaries/fightingthenextwar/read2asp>>. Internet. Accessed 26 February 2005.
- "Fiscal Year 2003 Request in Historical Perspective." 2002. Available from <<http://www.insideout.org/documentaries/fightingthenextwar/imagepop4.asp>>. Internet. Accessed 26 February 2005.
- Fulghum, David A., and Robert Wall. "Style Change." *Aviation Week and Space Technology* 162 (24 January 2005): 28.

- \_\_\_\_\_. "Budget Bloodbath." *Aviation Week and Space Technology* 162 (10 January 2005): 20-22.
- \_\_\_\_\_. "Near Miss, For Now." *Aviation Week and Space Technology* 162 (14 February 2005): 28-30.
- Gingrey, Phil. "Rising Miles above the Rest." *The Atlanta Journal-Constitution*, 12 January 2005, p. 11.
- Grier, Peter. "The Rising Tab for U.S. War Effort." *The Christian Science Monitor*, 17 December 2004, p. 1.
- "Grounds for Grounding." *The Atlanta Journal-Constitution*, 12 January 2005, p. 10.
- Hawkins, William R. "America: Rich or Poor?" *The Washington Times*, 26 January 2005, p. 16.
- Holloway, Charles A. *Decision Making Under Uncertainty: Models and Choices*. Englewood Cliffs: Prentice-Hall, 1979.
- Jablonsky, David. *Time's Cycle and National Military Strategy: The Case for Continuity in a Time of Change*. Carlisle Barracks: U.S. Army War College, Strategic Studies Institute, 1 June 1995.
- Kagan, Fredrick W. "Wishful Thinking on War." *The Weekly Standard*, 15 December 1997, 29.
- Karp, Jonathan and Andy Pasztor. "Pentagon Request May Set Off Turf Battles." *The Wall Street Journal*, 8 February 2005, p. 14.
- Kaufman, Alfred. "Caught in the Network." *Armed Forces Journal* 142 (February 2005): 20-22.
- Mann, Paul. "Revisionists Junk Defense Revolution." *Aviation Week and Space Technology* 155 (27 April 1998): 37-38.
- McCaffrey, Barry R. "Iraq: A Precarious Balance." *Armed Forces Journal* 142 (February 2005): 40-44.
- "Mobilization – The U.S. Army in World War II, The Fiftieth Anniversary." [n.d.]. Available from <<http://www.army.mil/cmh-pg/documents/mobpam.htm>>. Internet. Accessed 13 March 2005.
- Mullen, Richard. "Raptor, C-130J: Pentagon Bungled Planned Cuts – Lawmakers." *Defense Today*, 4 March 2005, 1.
- Murray, Shailagh. "Bush Faces Pentagon Gunfight." *The Wall Street Journal*, 1 February 2005, p. 4.
- Odom, William E. "Transforming the Military." *Foreign Affairs* 162 (July/August 1997): 58.
- O'Hanlon, Michael. "Double the Savings: Pentagon Reforms and Cutbacks." 11 January 2005. Available from <<http://www.brookings.edu/views/op-ed/ohanlon/20050111.htm>>. Internet. Accessed 26 February 2005.

- \_\_\_\_\_. "Limiting the Growth of the U.S. Defense Budget: An Alternative to the Bush Administration Numbers." March 2002. Available from <<http://www.brookings.edu/comm/policybriefs/pb95.htm>>. Internet. Accessed 26 February 2005.
- Osgood, Robert E. *Limited War*. Chicago: University of Chicago Press, 1957.
- Owens, Mackubin T. "An Overview of U.S. Military Strategy: Concepts and History." In *Strategy and Force Planning*, ed. Strategy and Force Planning Faculty, 401. Newport: Naval War College Press, 1997.
- Pasztor, Andy. "Bush to Seek 4.8% Increase in Defense Spending." *The Wall Street Journal*, 7 February 2005, p. 6.
- Rees, Elizabeth. "USAF's Future Force Structure Plan Spawns \$5 Billion in FYDP Savings." *Inside the Air Force*, 25 February 2005, 1.
- Roland, Alex. *The Technological Fix: Weapons and the Cost of War*. Carlisle Barracks: U.S. Army War College, Strategic Studies Institute, 6 June 1995.
- Rumsfeld, Donald H. *Quadrennial Defense Review Report*. Washington, D.C.: U.S. Secretary of Defense, 30 September 2001.
- \_\_\_\_\_. *2004 Secretary of Defense Annual Report to the President and the Congress*. 2004. Available from <[http://www.defenselink.mil/execsec/adr2004/adr2004\\_toc.html](http://www.defenselink.mil/execsec/adr2004/adr2004_toc.html)>. Internet. Accessed 24 January 2005.
- Scully, Megan. "Reality Check." *Armed Forces Journal* 142 (February 2005): 34-36.
- Scully, Megan, et al. "Top Defense Programs." *Armed Forces Journal* 141 (December 2004): 26-31.
- Sherman, Jason. "Facing a New Reality." *Armed Forces Journal* 141 (December 2004): 20-25.
- Spencer, Jack. "Guidelines for Modernizing America's Armed Forces." 28 March 2001. Available from <<http://www.heritage.org/Research/NationalSecurity/BG1422.cfm>>. Internet. Accessed 26 February 2005.
- Spencer, Jack, James Jay Carafano, and Baker Spring. "Defense Priorities for the Next Four Years." 11 January 2005. Available from <<http://www.heritage.org/Research/NationalSecurity/em953.cfm>>. Internet. Accessed 26 February 2005.
- "The 20 Power Standard: U.S. Defense Spending Versus the Next 20 Largest Defense Budgets." 2002. Available from <<http://www.insideout.org/documentaries/fightingthenextwar/imagepop.asp>>. Internet. Accessed 26 February 2005.
- Thee, Marek. *Whatever Happened to the Peace Dividend*. Nottingham: Russell Press Ltd, 1991.
- Troxell, John F. *Force Planning in an Era of Uncertainty: Two MRCs as a Force Sizing Framework*. Carlisle Barracks: U.S. Army War College, Strategic Studies Institute, 15 September 1997.



- U.S. Congressional Budget Office. *The Long-Term Implications of Current Defense Plans: Summary Update for FY2005*. Washington, D.C.: U.S. Congressional Budget Office, September 2004.
- U.S. Department of the Army. *The Army in Joint Operations: The Army's Future Force Capstone Concept 2015-2054: Final Coordinating Draft*. TRADOC Pamphlet 525-3-0. Washington, D.C.: U.S. Department of the Army, 27 February 2005.
- U.S. Department of Defense. *Joint Defense Capabilities Study Final Report*. Washington, D.C.: U.S. Department of Defense, December 2003.
- \_\_\_\_\_. *Report of the National Defense Panel*. Washington, D.C.: U.S. Department of Defense, December 1997.
- U.S. Joint Forces Command. *The Joint Operational Environment – Into the Future (Coordinating Draft)*. Norfolk, VA: U.S. Joint Forces Command, 11 January 2005.
- U.S. National Intelligence Council. *Mapping the Global Future – Report on the National Intelligence Council's 2020 Project*. Washington, D.C.: U.S. National Intelligence Council, December 2004.
- Weidenbaum, Murray. "How Much Defense Spending Can We Afford?" *Public Interests* 151 (Spring 2003): 52-61.
- White, John P., and John Deutch. *Building Capability from the Technical Revolution That Has Happened*. Report of the Belfer Center Conference on National Security Transformation. Carlisle Barracks: U.S. Army War College, Strategic Studies Institute, June 2004.